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22. MATERNAL CARE IN *OXYRHACHIS TARANDUS* FABR.
(MEMBRACIDAE: HOMOPTERA)

Oxyrhachis tarandus is a common species of membracid usually found on *Acacia arabica* and *Cassia fistula*. It is a brown insect with the posterior pronotal process extending backwards upto the posterior end of the ab- and fulgorids. The female of this species anterolateral processes of the pronotum are in the form of short tricarinate horns.

This treehopper caught our attention during field surveys for collecting the membracids and fulgorids. The female of this species usually sits on the egg mass laid by it on the twig of *Acacia arabica*. While laying eggs the female cuts the bark longitudinally and inserts eggs into the twig in two parallel rows on either side of the slit and placing them at an acute angle to the main axis. The micropylar end of the egg is exposed.

Careful examination of the tree twigs revealed many females sitting over the eggs. The tree was marked and the females were observed closely for several days. After about three weeks the little ones were out and on account

of their gregarious habit they grouped a little above the egg shells and the mother had moved a little away from the egg mass but was still amidst the young treehoppers.

The mother always sat tightly perched over the egg mass least disturbed by approaching animals or man. It did not move away even if the twig was shaken violently. It could only be removed from its place through a physical push. If any object was gently directed at it with the purpose of inducing it to move away from the egg mass, it usually retaliated and tried to push it aside with its pronotal horns. The female was observed to get extremely agitated on sighting minute hymenopterous egg parasites which threatened to parasitise the eggs. The female used to push aside the hymenopterous egg parasites with the help of its pronotal horns and by the movement of wings and legs.

It was apparent that the mother never leaves its eggs even temporarily till they are hatched and it may also be assumed that the brood

mothers remain foodless during the period of maternal care as very careful observations have failed to reveal any punctures in the twig in front of them.

Maternal care in this species can be attributed to the fact that eggs of membracids are frequently parasitised by the hymenopterous parasites. In order to protect the eggs from parasitisation by these insects the female sits over the eggs. In this context the observation that the most of the eggs that remain uncovered are parasitised by the hymenopterous parasite is revealing. So it can be safely concluded that this instinctive type of maternal care exhibited by *O. tarandus* pertains to the pro-

tection of its eggs from the attack of its enemies.

Murtfeldt (1887)¹ observed the female of *Eutilia sinuata* Fabr., a membracid, hovering over a cluster of her eggs laid on the leaf of Ragweeds (*Ambrosia*). He found the parent insect remaining with her eggs and young leafhoppers. When the female was touched with finger even with all the shaking and brushing the mother was not dislodged.

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¹ MURTFELDT, MARY E. (1887): Traces of maternal affection in *Eutilia sinuata* Fabr. *Ent. Amer.* 3: 177-178.

23. *PARNARA* BUTTERFLY FROM PATNA: A CORRECTION

In our faunal list of butterflies from Patna (Bihar) published in this *Journal* (Varshney and Nandi 1977), the occurrence of *Parnara guttatus bada* (Moore) has been shown in the Family Hesperidae. According to Evans (1949) the species *guttatus* is now almost restricted to China, Japan, Sumatra etc. eastern countries. Only one subspecies *guttatus mangala* Moore is found in India, which too has limited distribution — Kashmir to Kumaun, Sikkim, Assam.

The subspecies *bada* Moore, which is common in peninsular India, has been placed

under the species *naso* Fabricius. The type material of *bada* came from Ceylon (Sri Lanka) and it has been collected all over India, except western parts, *vide* Evans (1949). Thus, the Patna material should rightly be named as *Parnara naso bada* (Moore).

Evans (l. c.) has pointed out that the figures given of *guttatus* in Seitz (1927) also belong to *naso bada*.

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